CALFED BAY-DELTA PROGRAM

Office Memorandum

Date: July 13, 2000

To: Steve Ritchie

From: Tom Gohring

Subject: Request Management Group Review and Concurrence Of Staff Recommendation for Water Use Efficiency Pilot Projects

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The purpose of this memorandum is to request that Management Group review and concur with staff's recommendation on Water Use Efficiency pilot projects. This memo also describes the fair and open process used to develop the criteria and proposed selections for funding.

Staff recommends seven pilot projects (three urban and four agricultural) representing a CALFED investment of close to $1 million. These seven projects promise to answer key implementation questions.

Introduction

The Water Use Efficiency element addresses four categories: urban, agricultural, managed wetlands and water recycling. During FY 00, CALFED intends to initiate pilot projects that can answer key implementation questions related to agricultural and urban water use efficiency. These questions are an important step toward designing CALFED Incentive Grant programs that can motivate local entities to address multiple benefits (such as water quality and flow/timing) in addition to water supply reliability through water use efficiency actions.

Selection Process

To increase administrative efficiency and reduce selection time, CALFED intends to award its FY 00 pilot projects through directed actions. This process has employed the following steps:

1. Obtained concurrence from Policy Group on overall approach & priorities (December, 1999).
2. Obtained concurrence from BDAC on overall approach & priorities (December, 1999).
3. Convened a meeting of CALFED Agency representatives to refine criteria for selection and gather initial information on potential pilots (February, 2000).
4. CALFED Agency staff collected additional information on potential projects. Since CALFED had an ample number of existing agricultural projects already identified, it was not necessary to seek other projects. To solicit urban projects, USBR staff announced the availability of funds to members of the California Urban Water Conservation Council (February through April, 2000).
5. CALFED staff evaluated potential pilots (based on criteria given below) and recommended three urban and four agricultural projects (May, 2000).
6. Obtained stakeholder comments from the Agricultural WUE Steering Committee1 and Urban WUE Ad Hoc Committee2 (June, 2000). The process for soliciting stakeholder comments included the following:
    a. Oral comments were obtained at meetings of the respective agricultural and urban stakeholder groups,
    b. Stakeholders were asked to comment orally on the selection criteria, and
    c. Stakeholders were asked to comment orally on analysis of staff recommended projects.
    d. Staff did not accept comments from Stakeholders who had potential financial interest in proposed pilot projets.

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1 Agricultural Water Use Efficiency Steering Committee members include: Laura King/San Luis Delta-Mendota Water Auth., Steve Ottomoeller/Madera ID, Van Tennery/Glenn-Colusa ID, Tom Hurlbutt/State Water Contractors, Gary Bobker/Bay Institute, Roberta Borgonovo/League of Women Voters, Betsy Reifsnider/Friends of the River, Ronnie Cohen/Natural Resources Defense Council, Roger Reynolds/Agricultural Water Management Council, Richard Roos-Collins/Agricultural Water Management Council, Susan Ramos/USBR, Tracy Slavin/USBR, Tom Hagler/EPA, Caroline Yale/EPA, Baryohay Davidoff/DWR, and Steve Shaffer/CDFA.

2 Urban Water Use Efficiency Ad Hoc Committee members include: Mike Hollis/MWD, Joe Berg/MWDOC, Bill Jacoby/San Diego Co. Water Authority, Kim Knox/San Francisco, Tom Gackstetter/LADWP, Richard Harriss/EBMUD, MaryLou Cotton/Kern County Water Authority, Byron Buck/CUWA, Roberta Borgonovo/League of Women Voters, Betsy Reifsnider/Friends of the River, Francis Spivey-Weber/Mono Lake Committee, Ronnie Cohen/NRDC, Dave Fullerton/NHI, MaryAnn Dickinson/California Urban Water Conservation Council, Marsha Prillwitz/USBR, Carolyn Yale/EPA, and Greg Smith/DWR.

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7. Obtained review and concurrence from CALFED Management (July, 2000).
8. Request review and concurrence from CALFED Management Group (purpose of this memorandum).

This process was crafted to ensure that staff considered the appropriate range of potential pilot projects while avoiding potential conflicts of interest and maintaining the objectivity and latitude necessary to award the pilot projects through directed action.

Selection Criteria

The pilot project selection criteria focused not on beginning CALFED implementation, but on answering key CALFED implementation questions. This approach is embodied in the following three criteria:

- Potential project can be implemented rapidly (such as the extension of an existing project),
- Potential project has high probability of answering Level 1 Questions, and
- Potential project has at least medium probability of answering Level 2 Question.

Different questions were developed for selecting urban and agricultural projects to reflect the CALFED's different approaches to implementing these two different aspects of water use efficiency. These questions were developed by CALFED staff and agency representatives and encompass the most pressing information needed for effective water use efficiency implementation.

The following urban questions focus on ways to achieve multiple benefits and implement Best Management Practices beyond locally cost-effective levels:

Urban Level 1 Questions:

- Does the proposed project go beyond the CUWCC BMPs or achieve multiple benefits encompassed in the CALFED solution?
- Would the proposed project produce monitoring and reporting systems for establishing a conservation baseline or measuring conservation results?

Urban Level 2 Questions:

- Would the proposed project increase understanding of the feasibility of linking urban conservation programs to the Environmental Water Account?

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- Would the proposed project demonstrate novel approaches to Best Management Practices implementation?

The following agricultural questions focus on methods for achieving CALFED Quantifiable Objectives through an incentive grant program:

Agricultural Level 1 Questions:

- What are Quantifiable Objective monitoring requirements & costs?
- How can we bring water suppliers and water resource managers (such as Resource Conservation Districts) together for collaborative projects that achieve Quantifiable Objectives?
- How do we monitor centralized impacts of diffuse activities?
- What technical and administrative abilities will be required of incentive grant recipients?
- How can we motivate growers to address Quantifiable Objectives?

Agricultural Level 2 Questions:

- How can water suppliers or resource managers greatly expand current activities within their existing region?
- How can water suppliers or resource managers replicate successful water use efficiency actions in other regions?
- What are administration costs of projects that address Quantifiable Objectives?
- What is a reasonable timeline for adoption of actions designed to meet Quantifiable Objectives?

Projects Considered

Proposed Urban Projects: A total of sixteen urban water use efficiency pilot projects were considered (Table 1). These ranged from toilet retrofit to turf landscaping projects. Three of these are recommended for funding because of their ability to meet the selection criteria and answer the questions posed. All of the remaining proposed projects were deemed to have a low ability to meet the Level 1 Questions and therefore were not considered appropriate for pilots. Some of these projects, however were recommended for funding through other programs.

For example, the City of Fresno projects and EBMUD's Lindsay Museum project may be funded through Reclamation's Field Services Program. Contra Costa's Website project will be funded through Reclamation's Mid-Pacific regional office. The Upper San Gabriel project will

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be considered for funding through Reclamation's Lower Colorado region. Contra Costa's Ultra Low Flush Toilet project, EBMUD's clothes washer project, and MWD's CII project could be considered for funding through the California Urban Water Conservation Council.

Proposed Agricultural Projects: Of eighteen proposed agricultural water use efficiency pilot projects considered, four are recommended for funding (Table 2). Two projects are not recommended for funding because they did not meet the criteria for rapid implementation.

The remaining proposed projects were deemed to have a low ability to answer the Level 1 Questions either because there was a small connection to agricultural water use efficiency or there was not an existing project or readily identifiable cooperator.

Recommended Urban Pilot Projects

Chino Basin Urban WUE Project (Inland Empire Utilities Agency): This comprehensive water efficiency-landscape planning process for the Chino Basin will demonstrate how water use efficiencies beyond the BMPs and multiple environmental/economic benefits can be achieved and quantified through innovative land use planning. This project was recommended for funding because it has the ability to partially answer all of the Urban Level 1 and Level 2 questions.

ET Controller, TMDL Study (Municipal Water District of Orange County):

This project proposes expansion of an EPA grant to quantify non-point source pollution benefits resulting from more efficient residential irrigation scheduling and more environmentally sensitive landscape maintenance. CALFED funding would allow for monitoring of runoff from applied water, expand water sampling to include toxins and pathogens, expand education and outreach activities, and provide further statistical analyses of collected data. This project was recommended for funding because it has the ability to answer both of the Urban Level 1 Questions and the Level 2 Question related to novel approaches to BMP implementation.

River Park Water Use Efficiency Project (City of Sacramento): This project would target the River Park neighborhood in the City of Sacramento for an intensive survey of customers, emphasizing a positive approach to meter installation and water conservation. The baseline survey would include questions regarding chemicals applied to landscapes and green waste management as well as water use practices. The City would offer incentives in order to accelerate progress in the retrofit process. This project was recommended for funding because it has the ability to answer both of the Urban Level 1 Questions and the Level 2 Question related to novel approaches to BMP implementation.

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Recommended Agricultural Pilot Projects

Yolo Resource Management Monitoring & Extension (Yolo County RCD): CALFED funding would provide for additional monitoring of an existing water use efficiency program. The Yolo County RCD Total Resources Management Project has been recognized as successfully implementing actions, which integrate water conservation and water quality objectives. The proposed CALFED pilot project would involve adding monitoring and extension activities to answer Agricultural Level 1 and Level 2 Questions. Since this program, by design will meet CALFED's selection criteria, it is recommended for funding.

Irrigation District QO Rapid Assessment (Cal Poly ITRC): This project would develop a process to rapidly assess the potential for water supplier system renovation to meet CALFED's Quantifiable Objectives. This project promises to provide a tool that will assist potential agricultural cooperators to participate in CALFED's Incentive Grant program. The proposed QO Rapid Assessment would modify an existing assessment method to include CALFED's Quantifiable Objectives. This project recommended for funding because it has a high ability to answer Agricultural Level 1 and Level 2 Questions.

Rapid Canal Seepage Assessment (Center for Irrigation Technology): This project would test the ability of new technology to rapidly measure canal seepage rates. The proposed apparatus has been used successfully in other industries to measure water content and movement in porous media. This technology could vastly increase the capacity of water suppliers to determine their potential to address Quantifiable Objectives. This project recommended for funding because it has a high ability to answer Agricultural Level 1 and Level 2 Questions .

West Stanislaus Erosion Control Quantification (West Stanislaus RCD): This project would allow the RCD to work with growers to reduce on-farm erosion and to quantify regional effects of sediment reduction actions.

CALFED funding would provide for more complete quantification of a successful water use efficiency program. The West Stanislaus RCD Hydraulic Unit Area project has successfully reduced water qualify impairment of the San Joaquin River due to irrigation induced erosion. The proposed CALFED pilot project would involve a more robust quantification of the potential to address water quality issues through agricultural water use efficiency action. This proposed project would, by design answer Agricultural Level 1 and Level 2 Questions and is therefore recommended for funding.

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Cost Estimates

The estimated costs of the recommended pilot projects range from $35,000 to $200,000 with a total recommended funding commitment of approximately $1 million (Table 3). This funding commitment is within the Water Use Efficiency pilot project budget proposed earlier this year.

Table 1. CALFED Water Use Efficiency - Urban WUE Pilot Project Considered

		Can Answer [1]				Description	
No.	Title	Level 1	Level 2	Notes	Cooperator	Existing	As Pilot
1	Chino Basin Urban WUE Project [2]	High	Med	Good community involvement, can illustrate multiple benefits	Inland Empire U.A.	Consortium of interests established, will link land use planning to water use, quality. Quantification of multiple enviro/econ benefits.	Basin wide approach will be enhanced, water use data will be included in process
2	ET Controller, TMDL Study [2]	High	Med	Good study team assembled, good demonstration potential	MWD Orange Co.	Project established through USEPA grant, technology approach demonstrated. Improved residential irrigation scheduling and better landscape management practices explored.	Will generate more data on applied water, chemical constituents of run off
3	River Park Water Use Efficiency Project [2]	High	Med	Comprehensive approach to good resource management practices	City of Sacramento	Focus on expediting water measurement, public acceptance, multiple benefits. Intensive customer surveys, tracking.	Will serve as model for rest of City, Forum districts
4	Website Water Budget Notification Project	Low	Med	Will fund through Reclamation regional office	Contra Costa WD	Continuation of landscape measurement project funded by Reclamation. Makes water budget and use info available to customers via Internet.	---
5	Commercial ULFT	Low	Med	Referred to CUWCC for potential funding as part of statewide study	Contra Costa WD	Would retrofit 600 commercial toilets and conduct survey.	---
6	Palm Pilot for Residential Surveys	Low	Med	Referred to Fresno Reclamation for potential funding	City of Fresno	Develop software for residential audits with palm pilots.	---
7	Electronic Irrigation System Optimizers Project	Low	Med	Referred to Fresno Reclamation for potential funding	City of Fresno	Install and test new irrigation devices.	---
8	W.E. Land. Train. with Habitat for Humanity	Low	Low	Referred to LC Reclamation for potential funding	Up. S.Gab. Vly.WD	Hands-on training for Habitat homeowners.	---
9	Residential High Eff. Clotheswasher Rebate	Low	Med	Referred to CUWCC for potential funding as part of statewide study	East Bay MUD	Explore statewide program.	---
10	Market Penetration Study	Low	Low	Referred to CUWCC for potential funding as part of statewide study	East Bay MUD	Collect data regarding conservation potential, natural savings, free ridership.	---
11	Lindsay Museum Wildlife Museum Water Resources Center	Low	Low	Referred to Folsom Reclamation for potential funding	East Bay MUD	Public education linking water and wildlife.	---
12	Submetering multi-family residential sector	Low	Med	No funding recommended [3]	East Bay MUD	Part of national study for apartment submetering.	---
13	End Use Study	Low	Low	No funding recommended [3]	East Bay MUD	Follow-up of N. Amer. End Use Study.	---
14	Expanded CII Program	Low	Low	No funding recommended [3]	MWD S.Ca.	Expansion of existing CII program.	---
15	Two Turf Projects	Low	Low	No funding recommended [3]	UC Riverside	Water banking for tall fescue and turf on fairways.	---
16	Mixed Landscape Plantings Project	Low	Low	No funding recommended [3]	UC Riverside	Investigate mixed landscape plantings at 80% and 56% Eto.	---

[1] Inicates ability of given project to answer two levels of questions: Level 1 - Questions related to what type of project can go beyond basic BMP implementation, achieve multiple benefits, or develop innovative monitoring and reporting techniques. Level 2 - Questions related to what type of project could potentially be linked with the Environmental Water Account or show novel approaches to BMP implementation.

[2] These projects have been selected as pilots.

[3] These projects do not address questions sufficiently.

Table 2. CALFED Water Use Efficiency - Agricultural WUE Pilot Project Considered							
		Can Answer [1]				Description	
No.	Project Title	Level 1	Level 2	Notes	Cooperator	Existing	As Pilot
1	Yolo Resource Management Monitoring & Extension [2]	High	High	Purpose of pilot is to answer CALFED questions.	Yolo RCD	Implementation of on-farm integrated water management improvements	Add monitoring and extension activities to answer primary WUE questions
2	Irrigation District QO Rapid Assessment [2]	High	High	Purpose of pilot is to answer CALFED questions.	Cal Poly, ITRC	Process to rapidly assess the need for water supplier system renovation	Expand to include assessment of potential for district to address Quantifiable Objectives
3	Rapid Canal Seepage Assessment [2]	High	Med	Purpose of pilot is to answer CALFED questions.	Center for Irrigatoin Technology	Test ability of new off-the-shelf technology to measure canal flow rate.	Expand tests to determine ability of new technology to rapidly measure canal seepage
4	West Stanislaus Erosion Control Quantification [2]	High	Med	Purpose of pilot is to answer CALFED questions.	West Stanislaus RCD	Working with growers to reduce on-farm erosion	Add tasks to quantify regional effects of sediment reduction actions
5	Grasslands Incentive Program	Med	Med	Difficult to adapt existing effort in short time frame	Grasslands drainage program	Water supplier coordination of drainage with established targets	Adapt to include incentives for CALFED benefits
6	Yolo County Filter Strip	Med	Low	Difficult to adapt existing effort in short time frame	Yolo RCD	Planting and maintaining plants along ditch banks	---
7	Rainbow Creek Eco Lab	Low	Low	Small ag connection	San Diego RCD	Unknown	---
8	Dairy Water Quality	Low	Low	No WUE connection	CDFA	Unknown	---
9	Drainage Modeling	Low	Low	Not implementation	UC Davis	Computer model to study economics of drainage mgmt.	---
10	Integrated On-Farm Drainage Management	Low	Low	No existing project	Unknown	None	---
11	Extend CIMIS	Low	Low	No existing project	Unknown	None	---
12	Rice Water Return	Low	Low	No existing project	Unknown	None	---
13	Farm Canal Lining	Low	Low	No existing project	Panoche WD	None	---
14	Wetlands Drain Monititoring	Low	Low	No existing project	Grasslands drng. prog.	None	---
15	Drainage Storage Study	Low	Low	No existing project	Unknown	None	---
16	Biologically Integrated Vineyard Systems	Low	Low	No ready cooperator	Unknown	---	---
17	VAMP	Low	Low	No ready cooperator	Unknown	---	---
18	Sacramento River Riparian Management	Low	Low	No ready cooperator	Unknown	---	---

[1] Inicates ability of given project to answer two levels of questions: Level 1 - Primary implementation questions related to monitoring requirements and costs, developing cooperation between water supplies and managers, defining local capabilities, and motivating growers; Level 2 - Secondary implementation questions related to administration costs, adoption timelines, transfer of implementation models to other regions, and expansion of existing programs.

[2] These projects have been selected for pilots.

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Table 3. Summary of Recommended Projects and Estimated Costs			
No.	**Project Title**	**Cooperator**	**Estimated Cost ($)**
Recommended Urban Pilot Projects			
1	Chino Basin Urban WUE Project	Inland Empire U.A.	125,000
2	ET Controller, TMDL Study	MWD Orange Co.	200,000
3	River Park Water Use Efficiency Project	City of Sacramento	150,000
		Subtotal	475,000
Recommended Ag Pilot Projects			
1	Yolo Resource Management Monitoring & Extension	Yolo RCD	200,000
2	Irrigation District QO Rapid Assessment	Cal Poly, SLO	35,000
3	Rapid Canal Seepage Assessment	CIT	98,000
4	West Stanislaus Erosion Control Quantification	West Stanislaus RCD	125,000
		Subtotal	458,000
		Grand Total	933,000

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